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EXAMINER

KUHNS, SARAH LOUISE

ART UNIT

PAPER NUMBER

1761

DATE MAILED: 12/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/142,712

Applicant(s)

LOOSEN, HEINZ

Examiner

Sarah L Kuhns

Art Unit

1761

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-29 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Specification

The disclosure is objected to because of the following informalities: On page 11 at line 10 the mixing blade is referred to as 46, but there is no 46 in figure 4. It is believed that the reference to 46 should instead be to 10.

Appropriate correction is required.

Claim Objections

Claims 4-9, 16, and 20 are objected to because of the following informalities: References to the drawings should not be contained in the claims. Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3, 15, 27, and 28 are rejected under 35 U.S.C. 102(b) as being anticipated by Shimizu, EP 0599661 A1.

In regard to claim 1, Shimizu discloses a process for rotting compostable material, with previous shredding (grinding chamber 45) and input of the shredded

material into a mixing drum to undergo preliminary rotting under an elevated temperature (column 4, line 35) characterized by the fact that the microorganisms produced during the process are removed at the end of predetermined process stages and a partial flow containing microorganisms is returned to the process stage at the beginning of the mixing drum (column 4, line 49).

In regard to claim 2, Shimizu discloses the partial flow being conducted to the anterior end of the mixing container (column 4, line 52).

In regard to claim 3, Shimizu discloses the returning occurring within the mixing container (figure 4, returning device 23).

In regard to claim 15, Shimizu discloses the use of insulation to prevent fermentation heat loss (column 11, line 41). Because the equipment in Shimizu's invention is insulated and the process is known to be exothermic it is inherent that heat is led back to the process ahead of the mixing drum by way of the partial flow.

In regard to claim 27, Shimizu discloses a stationary mixing container that accomplishes thorough mixing by means of circulating conveyance (figure 3).

In regard to claim 28, Shimizu discloses a stationary mixing container that accomplishes thorough mixing by means of a mixer that is moved relative to the mixing drum (figure 3).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 4-14, 16-26, and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shimizu, as applied to claim 1 above, in view of Hitzman, U.S. Patent 4,798,801, Castaldi, U.S. Patent 5,232,596, Louvo, U.S. Patent 4,633,535, Niino, JP 02211288 A, Emmet, U.S. Patent 3,248,175, Hughes, GB 533,153, and Martin et al., U.S. Patent 4,892,658.

In regard to claim 4, Shimizu fails to disclose a specific anaerobic treatment, but teaches that organic matter is put in an anaerobic condition when it is ground. Hitzman discloses that it is well known in the art to use anaerobic processes in the destruction of waste matter (column 1, line 11). It would therefore be obvious to incorporate anaerobic treatment in order to stabilize the waste.

In regard to claims 5-7, Shimizu discloses a subsequent aerobic treatment, in which a mixture of air and water is led to the mixing container, but the mixture is not within a closed loop (column 4, lines 8-35). However, Castaldi discloses a closed loop design for use in a waste treatment system that omits air creating aerobic conditions

(column 18, line 27). It would therefore be obvious to use such a design in the invention of Shimizu in order to provide aerobic environment for the microbes, thereby allowing them to perform aerobic respiratory metabolism. It would also be obvious to modify the shape of the loop in order to facilitate the optimum flow.

In regard to claims 8 and 9, Shimizu fails to disclose separating the stream into a flow of solids and a flow of cloudy water. However, sedimentation tanks are frequently used in the field to separate suspended particles from liquid after the particles are dissolved off. It would therefore be obvious to use such a conventional method to separate suspended particles from water, allowing the cloudy water alone to be subjected to aerobic treatment, because the water is where the microbes are contained.

In regard to claims 10-12, Shimizu fails to disclose anaerobic treatment. However, Hitzman discloses that it is well known in the art to use anaerobic processes in the destruction of waste matter (column 1, line 11). It would therefore be obvious to incorporate anaerobic treatment in order to stabilize the waste prior to composting and also to stabilize the waste that was subjected to aerobic treatment in the mixing container prior to being added to new waste in the grinder.

In regard to claim 13, Shimizu fails to disclose the use of a sieve. However, Louvo also discloses a process for rotting compostable material characterized by the fact that the microorganisms produced during the process are removed at the end of predetermined process stages and a partial flow containing microorganisms is returned to the start of the process (column 6, line 54). Additionally Louvo discloses the use of a

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sieve (10) in order to separate the processed compost soil from non-composted waste, which is returned to the mixing drum (column 6, line 46).

In regard to claim 14, Shimizu fails to disclose anaerobic treatment. However, Hitzman discloses that it is well known in the art to use anaerobic processes in the destruction of waste matter (column 1, line 11). It would therefore be obvious to incorporate anaerobic treatment in order to stabilize the waste.

In regard to claims 16-21, Shimizu discloses water being conducted to the process in the mixing container (Figure 8). However, Shimizu fails to disclose a method of preparing the water so that it is "microbe friendly." Niino discloses a method of improving the activating level of water by applying a magnetic field in order to promote fermentation (abstract). Absent a showing to the contrary, this is an obvious alternative to the methods claimed and would achieve the same result.

In regard to claim 22, Shimizu does not specify a storage method or time. However, it is well known in the art to store compost in airtight containers, as evidenced by Emmet (column 3, lines 33-40), in order to allow for further ripening of the compost without further treatment. The appropriate storage time depends on the size of the compost load (column 2, lines 19-22) and therefore could easily be determined by one skilled in the art through simple experimentation.

In regard to claim 23, Shimizu does not disclose a washing facility. Hughes teaches the spraying of shredded material prior to fermentation with liquid cultures of selected bacteria (page 5, lines 70-74) and scrubber-liquor containing ammoniacal compounds. It would therefore be obvious to wash the shredded material of Shimizu

using the method taught by Hughes in order to augment the activity of the natural and inherent bacterial flora of the shredded material.

In regard to claim 24, Shimizu fails to disclose a topped water preparation apparatus. However, sedimentation tanks are frequently used in the field to separate suspended particles from liquid after the particles are dissolved off. It would therefore be obvious to use such a conventional method to separate suspended particles from water.

In regard to claim 25, Shimizu discloses a process with a grinder (figure 8) and without a grinder (figure 1). In the case without the grinder, Shimizu has a branched off partial flow returning to the mixing drum. It would therefore be obvious to all send the partial flow returning to the mixing drum even if there is a grinder employed to avoid to unnecessarily regrinding material and slowing down the process.

In regard to claim 26, Shimizu fails to disclose denitrification of the shredded material. Martin teaches that it is common to employ denitrification in the treatment of waste (column 7, lines 18-34). As such, it would be obvious to subject the shredded material to denitrification in order to reduce the amounts of nitrates present.

In regard to claim 29, Shimizu fails to disclose a rotating mixing drum. However, Louvo discloses a mixing drum that may be rotated around an axis with a horizontal component and that accomplishes thorough mixing by means of mixing blades that sit rigidly on the mixing drum for use in composting (abstract). It would therefore be obvious to substitute the conventional method of mixing used by Louvo in place of the conventional method taught by Shimizu.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sarah L. Kuhns whose telephone number is 571-272-1088. The examiner can normally be reached on Monday - Friday from 8:00 am - 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Milton Cano can be reached on 571-272-1398. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

SLK


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